

General

Guideline Title

Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis. Report of the Guideline Development Subcommittee of the American Academy of Neurology.

Bibliographic Source(s)

Yadav V, Bever C, Bowen J, Bowling A, Weinstock-Guttman B, Cameron M, Bourdette D, Gronseth GS, Narayanaswami P. Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis. Report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology*. 2014 Mar 25;82(12):1083-92. [40 references] [PubMed](#)

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

Definitions of the levels of the recommendations (A, B, C, U) and classification of the evidence (Class I-IV) are provided at the end of the "Major Recommendations" field.

Cannabinoids

Cannabinoid Practice Recommendations

Clinicians might offer oral cannabis extract (OCE) to patients with multiple sclerosis (MS) to reduce patient-reported symptoms of spasticity and pain (excluding central neuropathic pain) (Level A) and might counsel patients that this symptomatic benefit is possibly maintained for 1 year (Level C), although OCE is probably ineffective for improving objective spasticity measures (short-term) or tremor (Level B).

Clinicians might offer tetrahydrocannabinol (THC) to patients with MS to reduce patient-reported symptoms of spasticity and pain (excluding central neuropathic pain) (Level B). Clinicians might counsel patients that this symptomatic benefit is possibly maintained for 1 year (Level C), although THC is probably ineffective for improving objective spasticity measures (short-term) or tremor (Level B).

Clinicians might offer Sativex oromucosal cannabinoid spray (nabiximols), where available, to reduce symptoms of spasticity, pain, or urinary frequency, although it is probably ineffective for improving objective spasticity measures or number of urinary incontinence episodes (Level B).

Clinicians might choose not to offer Sativex oromucosal cannabinoid spray to reduce MS-related tremor (Level C).

Data are inadequate to support or refute use of the following in MS (Level U):

1. OCE/THC for bladder urge incontinence and overall symptoms
2. Synthetic THC (Marinol) for central neuropathic pain
3. Sativex oromucosal cannabinoid spray for overall bladder symptoms, anxiety symptoms/sleep problems, cognitive symptoms, quality of life (QOL), and fatigue
4. Smoked cannabis for spasticity, pain, balance/posture, and cognition

Data are inadequate to determine the abuse potential or effect on psychopathologic symptoms of Sativex cannabinoid spray (Level U).

Clinical Context

The cannabinoid studies have limitations that physicians and patients must be aware of. Most studies were of short duration (6 to 15 weeks). Another limitation was the potential for central side effects to unmask patients to treatment assignment — a concern with regard to all masked trials involving treatments with prominent side effects. It is also important to recognize that the Ashworth scale used for objective measurement may be insensitive to spasticity changes. These factors may contribute to the discordant effects of cannabinoids on subjective and objective spasticity measures.

Ginkgo Biloba (GB)

GB Practice Recommendations

Clinicians might counsel patients with MS that GB is established as ineffective for improving cognitive function (Level A).

Clinicians might counsel patients with MS that GB is possibly effective for reducing fatigue (Level C).

Clinical Context

GB and other supplements are not U.S. Food and Drug Administration (FDA) regulated. Their quality control may play a role in their effectiveness and adverse effect (AE) risk. Moreover, interactions of supplements with other medications, especially disease-modifying therapies for MS, are a clinical concern.

Low-Fat Diet with Omega-3 Fatty Acid Supplementation (Omega-3)

Omega-3 Practice Recommendation

Clinicians might counsel patients that a low-fat diet with fish oil supplementation is probably ineffective for reducing relapses, disability, or magnetic resonance imaging (MRI) lesions, or for improving fatigue or QOL in MS (Level B).

Lofepramine

Lofepramine Practice Recommendation

Clinicians might counsel patients with MS that lofepramine plus L-phenylalanine with vitamin B₁₂ (Cari Loder regimen) is possibly ineffective for treating disability, symptoms, depression, or fatigue (Level C).

Reflexology

Reflexology Practice Recommendation

Clinicians might counsel patients with MS that reflexology is possibly effective for reducing paresthesia (Level C).

Bee Venom

Bee Venom Practice Recommendation

Clinicians might counsel patients with MS that bee sting therapy is possibly ineffective for reducing relapses, disability, fatigue, total MRI lesion burden, new gadolinium-enhancing lesion volume, or health-related quality of life (HRQOL) (Level C).

Clinical Context

Bee stings can be associated with anaphylactic reaction and possible death.

Magnetic Therapy

Magnetic Therapy Practice Recommendation

Clinicians might counsel patients with MS that magnetic therapy is probably effective for reducing fatigue (Level B) and probably ineffective for reducing depression (Level B).

Other CAM Therapies Practice Recommendation

Clinicians should counsel patients with MS that the safety and efficacy of other reviewed CAM, or the interaction of CAM with disease-modifying therapies for MS, are unknown (Level U).

Definitions:

Classification of Evidence for Therapeutic Interventions

Class I: A randomized, controlled clinical trial of the intervention of interest with masked or objective outcome assessment, in a representative population. Relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences.

The following are also required:

- a. Concealed allocation
- b. Primary outcome(s) clearly defined
- c. Exclusion/inclusion criteria clearly defined
- d. Adequate accounting for drop-outs (with at least 80% of enrolled subjects completing the study) and cross-overs with numbers sufficiently low to have minimal potential for bias.
- e. For noninferiority or equivalence trials claiming to prove efficacy for one or both drugs, the following are also required*:
 1. The authors explicitly state the clinically meaningful difference to be excluded by defining the threshold for equivalence or noninferiority.
 2. The standard treatment used in the study is substantially similar to that used in previous studies establishing efficacy of the standard treatment (e.g., for a drug, the mode of administration, dose and dosage adjustments are similar to those previously shown to be effective).
 3. The inclusion and exclusion criteria for patient selection and the outcomes of patients on the standard treatment are comparable to those of previous studies establishing efficacy of the standard treatment.
 4. The interpretation of the results of the study is based upon a per protocol analysis that takes into account dropouts or crossovers.

Class II: A randomized controlled clinical trial of the intervention of interest in a representative population with masked or objective outcome assessment that lacks one criteria a-e above or a prospective matched cohort study with masked or objective outcome assessment in a representative population that meets b-e above. Relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences.

Class III: All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome is independently assessed, or independently derived by objective outcome measurement.**

Class IV: Studies not meeting Class I, II or III criteria including consensus or expert opinion.

*Note that numbers 1-3 in Class Ie are required for Class II in equivalence trials. If any one of the three is missing, the class is automatically downgraded to Class III.

**Objective outcome measurement: an outcome measure that is unlikely to be affected by an observer's (patient, treating physician, investigator) expectation or bias (e.g., blood tests, administrative outcome data).

Classification of Recommendations

Level A = Established as effective, ineffective, or harmful (or established as useful/predictive or not useful/predictive) for the given condition in the specified population. (Level A rating requires at least two consistent Class I studies.)*

Level B = Probably effective, ineffective, or harmful (or probably useful/predictive or not useful/predictive) for the given condition in the specified population. (Level B rating requires at least one Class I study or at least two consistent Class II studies.)

Level C = Possibly effective, ineffective, or harmful (or possibly useful/predictive or not useful/predictive) for the given condition in the specified population. (Level C rating requires at least one Class II study or two consistent Class III studies.)

Level U = Data inadequate or conflicting; given current knowledge, treatment (test, predictor) is unproven.

*In exceptional cases, one convincing Class I study may suffice for an "A" recommendation if 1) all criteria are met, 2) the magnitude of effect is large (relative rate improved outcome >5 and the lower limit of the confidence interval is >2).

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Multiple sclerosis (MS)

Guideline Category

Assessment of Therapeutic Effectiveness

Counseling

Management

Clinical Specialty

Neurology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

- To develop evidence-based recommendations for complementary and alternative medicine (CAM) in multiple sclerosis (MS)
- To answer the following clinical questions: In patients with MS,
 - Do CAM therapies reduce specific symptoms and prevent relapses or disability?
 - Can CAM use worsen MS or cause serious adverse effects (SAEs)?
 - Can CAM use interfere with MS disease-modifying therapies?

Target Population

Patients with multiple sclerosis (MS)

Interventions and Practices Considered

1. Cannabinoids
 - Oral cannabis extract (OCE)
 - Synthetic tetrahydrocannabinol (THC)
 - Sativex oromucosal cannabinoid spray
2. Ginkgo biloba (GB)
3. Reflexology
4. Magnetic therapy

Note: The following interventions were considered but not recommended:

Smoked cannabis
Low-fat diet with omega-3 fatty acid supplementation
Lofepramine plus L-phenylalanine with vitamin B₁₂ (Cari Loder regimen)
Bee venom
Other complementary and alternative medicine (CAM) therapies

Major Outcomes Considered

- Reduction of symptoms
- Level of disability
- Rate of relapse
- Adverse effects
- Quality of life

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The panel searched MEDLINE, Web of Science, EMBASE, Cochrane, and Allied and Complementary Medicine Database (1970 to March 2011) using the terms listed in appendices e-3 and e-4 of the data supplement (see the "Availability of Companion Documents" field). From March 2011 to September 2013, the panel performed a pragmatic search of MEDLINE, using the clinical queries filters, which allowed the authors to identify, with high sensitivity, high-quality articles that would potentially change conclusions and recommendations. The pragmatic search may have missed lower-quality studies, but any such studies that may have been found would be unlikely to change conclusions and recommendations. At least 2 panelists reviewed all abstracts for relevance. A third reviewer arbitrated any disagreements. The panel included all human randomized, controlled trials (RCTs); cohort studies; case-control studies; and case series (those with $N \geq 10$ or addressing adverse effects [AEs]) of multiple sclerosis (MS) and complementary and alternative medicine (CAM) therapies that evaluated outcomes pertaining to specific MS symptoms, relapses, progression, or AEs.

The authors identified 2,608 citations, 291 of which met inclusion criteria for initial review.

Number of Source Documents

Of the 291 articles which met inclusion, 115 were deemed relevant and underwent data extraction, with 10 rated as Class I, 23 as Class II, 41 as Class III, and 25 as Class IV.

Methods Used to Assess the Quality and Strength of the Evidence

Rating Scheme for the Strength of the Evidence

Classification of Evidence for Therapeutic Interventions

Class I: A randomized, controlled clinical trial of the intervention of interest with masked or objective outcome assessment, in a representative population. Relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences.

The following are also required:

- a. Concealed allocation
- b. Primary outcome(s) clearly defined
- c. Exclusion/inclusion criteria clearly defined
- d. Adequate accounting for drop-outs (with at least 80% of enrolled subjects completing the study) and cross-overs with numbers sufficiently low to have minimal potential for bias.
- e. For noninferiority or equivalence trials claiming to prove efficacy for one or both drugs, the following are also required*:
 1. The authors explicitly state the clinically meaningful difference to be excluded by defining the threshold for equivalence or noninferiority.
 2. The standard treatment used in the study is substantially similar to that used in previous studies establishing efficacy of the standard treatment (e.g., for a drug, the mode of administration, dose and dosage adjustments are similar to those previously shown to be effective).
 3. The inclusion and exclusion criteria for patient selection and the outcomes of patients on the standard treatment are comparable to those of previous studies establishing efficacy of the standard treatment.
 4. The interpretation of the results of the study is based upon a per protocol analysis that takes into account dropouts or crossovers.

Class II: A randomized controlled clinical trial of the intervention of interest in a representative population with masked or objective outcome assessment that lacks one criteria a-e above or a prospective matched cohort study with masked or objective outcome assessment in a representative population that meets b-e above. Relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences.

Class III: All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome is independently assessed, or independently derived by objective outcome measurement.**

Class IV: Studies not meeting Class I, II or III criteria including consensus or expert opinion.

*Note that numbers 1-3 in Class Ie are required for Class II in equivalence trials. If any one of the three is missing the class is automatically downgraded to Class III.

**Objective outcome measurement: an outcome measure that is unlikely to be affected by an observer's (patient, treating physician, investigator) expectation or bias (e.g., blood tests, administrative outcome data).

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

The authors rated articles for quality of evidence using the American Academy of Neurology (AAN) classification scheme for therapeutic articles (see the "Rating Scheme for the Strength of the Evidence" field).

Analysis of Evidence

Two panelists reviewed the full text of these articles. Cooling and Feldenkrais therapies were excluded because they were included in a guideline in development that evaluates rehabilitation in multiple sclerosis (MS). Table e-3 in the data supplement (see the "Availability of Companion

Documents" field) summarizes complementary and alternative medicine (CAM) therapies with no evidence from studies in MS subjects.

Several validated scales, listed next, were used to assess outcomes (see Table e-1 in the data supplement).

Where ordinal scales that were not well validated were used, the panel interpreted results cautiously, in concert with results from other validated scales. When evaluating studies of cannabis on pain, the panel graded separately the evidence for pain associated with spasticity and the evidence for pain specified to be of central, neuropathic origin, and made separate recommendations. Where necessary, the panel performed a Bonferroni correction for multiple comparisons for studies reporting multiple secondary outcomes.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

This guideline was developed in accordance with the 2004 American Academy of Neurology (AAN) process manual. After review of conflict of interest statements, the AAN selected a panel of experts. A medical research librarian helped perform a comprehensive literature search, and the authors selected articles.

Conclusions and recommendations were linked to the strength of evidence (see the Rating Scheme for the Strength of the Recommendations" field). The authors selected the final level of obligation for compliance with a recommendation (might/may, should, or must) after taking into consideration the quality of evidence (Level A, B, or C) as well as other factors, including limitations in the generalizability of the studies, safety/side effect concerns, and the availability of alternative treatments.

Rating Scheme for the Strength of the Recommendations

Classification of Recommendations

Level A = Established as effective, ineffective, or harmful (or established as useful/predictive or not useful/predictive) for the given condition in the specified population. (Level A rating requires at least two consistent Class I studies.)*

Level B = Probably effective, ineffective, or harmful (or probably useful/predictive or not useful/predictive) for the given condition in the specified population. (Level B rating requires at least one Class I study or at least two consistent Class II studies.)

Level C = Possibly effective, ineffective, or harmful (or possibly useful/predictive or not useful/predictive) for the given condition in the specified population. (Level C rating requires at least one Class II study or two consistent Class III studies.)

Level U = Data inadequate or conflicting; given current knowledge, treatment (test, predictor) is unproven.

*In exceptional cases, one convincing Class I study may suffice for an "A" recommendation if 1) all criteria are met, 2) the magnitude of effect is large (relative rate improved outcome >5 and the lower limit of the confidence interval is >2).

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Drafts of the guideline have been reviewed by at least 3 American Academy of Neurology (AAN) committees, a network of neurologists,

The guideline document was approved by the Guideline Development Subcommittee on January 12, 2013; by the Practice Committee on March 13, 2013; and by the American Academy of Neurology Institute (AANI) Board of Directors on December 11, 2013.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management of complementary and alternative medicine (CAM) in multiple sclerosis (MS)

Potential Harms

- Cannabinoids were generally well tolerated, although some serious adverse effects (SAEs) were reported. Few studies reported deaths in the cannabinoid-treated groups (1 due to pneumonia, 1 to seizure-related aspiration pneumonia, and 2 to cancer, presumed unrelated). Mild/moderate adverse effects (AEs) were common (approximately 50% to 80% of subjects) and appeared to be equally prevalent in subjects receiving cannabinoids or placebo. No significant laboratory, hematologic, urologic, or cardiac changes, or differences in vital signs, were noted. Central nervous system (CNS) AEs (e.g., dizziness, somnolence, drowsiness, lightheadedness, memory disturbance, difficulty concentrating) were more common in subjects receiving cannabinoids vs placebo. Dizziness was most common (15% to 50% of subjects). Gastrointestinal AEs, including increased appetite, nausea, vomiting, constipation, and dry/sore mouth, occurred in about 10% of subjects receiving cannabinoids and were more common in those receiving cannabinoids than placebo. Other less common AEs included myalgia, increased spasticity, seizures (4/137 subjects had seizures), lower limb weakness, hemorrhagic cystitis, dehydration, temporary psychosis (1 rated as severe), hallucinations, and oral ulceration.
- Because cannabinoids have known psychoactive properties, their potential for psychopathologic and neurocognitive AEs is a concern, especially in a patient population that may be vulnerable due to underlying disorders. Depression and predisposal to psychosis have been reported with long-term cannabis exposure. Development of marijuana addiction is controversial; however, long-term heavy marijuana use has been associated with tolerance and dependence. Evidence is also available, albeit inconsistent, for impairments in memory, concentration, and executive functions in chronic cannabis users, although it remains unclear how long these deficits persist after abstinence and whether there is permanent neurotoxicity. In 1 study, patients with multiple sclerosis (MS) and prolonged use of "street" cannabis had cognitive function impairments relative to patients with MS who did not use cannabis. Patients with MS who smoked cannabis regularly had more extensive cognitive abnormalities and were more likely to meet criteria for a lifetime Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) psychiatric diagnosis. Although not generalizable to medical cannabis, the associations from these studies of street cannabis raise concerns. A substudy of the large Class I study reviewed, available only in abstract form, reported a significant reduction in verbal learning and memory in patients with MS receiving cannabis extracts vs those receiving placebo. Several of the reviewed studies assessed psychopathology and cognition as secondary outcomes without significant AEs; however, these studies were short-term and inadequately powered to exclude an effect.
- Clinicians should counsel patients about the potential for psychopathologic/cognitive and other AEs associated with cannabinoids. Sativex oromucosal cannabinoid spray is not U.S. Food and Drug Administration (FDA) approved and is unavailable in the United States. In the United States, caution should be exercised with regard to extrapolation of results of trials of standardized oral cannabis extracts (OCEs) (which are unavailable commercially) to other nonstandardized, nonregulated cannabis extracts (which may be commercially available in states with medical marijuana laws)
- Ginkgo biloba (GB) and other supplements are not FDA regulated. Their quality control may play a role in their effectiveness and AE risk. Moreover, interactions of supplements with other medications, especially disease-modifying therapies for MS, are a clinical concern.
- One study on magnetic therapy reported headache, spasms, and burning sensation.

Qualifying Statements

Qualifying Statements

- The review on which the original guideline is based has several limitations. Because the search strategy is limited only to multiple sclerosis (MS), some potentially important adverse effects (AEs) (e.g., bleeding risk with ginkgo biloba [GB]) of the reviewed therapies noted when they were evaluated in other diseases were not apparent in the MS population. Therapies that have received much press attention (e.g., dental amalgam removal, transdermal histamine) have little evidence to support recommendations.
- This statement is provided as an educational service of the American Academy of Neurology (AAN). It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all of the circumstances involved. The clinical context section is made available in order to place the evidence-based guideline(s) into perspective with current practice habits and challenges. Formal practice recommendations are not intended to replace clinical judgment.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

Quick Reference Guides/Physician Guides

Slide Presentation

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Safety

Identifying Information and Availability

Bibliographic Source(s)

Yadav V, Bever C, Bowen J, Bowling A, Weinstock-Guttman B, Cameron M, Bourdette D, Gronseth GS, Narayanaswami P. Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis. Report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology*. 2014 Mar 25;82(12):1083-92. [40 references] [PubMed](#)

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2014 Mar 25

Guideline Developer(s)

American Academy of Neurology - Medical Specialty Society

Source(s) of Funding

This guideline was developed with financial support from the American Academy of Neurology (AAN). None of the authors received reimbursement, honoraria, or stipends for their participation in development of this guideline.

Guideline Committee

Guideline Development Subcommittee of the American Academy of Neurology (AAN)

Composition of Group That Authored the Guideline

Committee Members: Vijayshree Yadav, MD, MCR; Christopher Bever, Jr., MD, MBA, FAAN; James Bowen, MD; Allen Bowling, MD, PhD; Bianca Weinstock-Guttman, MD; Michelle Cameron, MD, PT; Dennis Bourdette, MD, FAAN; Gary S. Gronseth, MD, FAAN; Pushpa Narayanaswami, MBBS, DM, FAAN

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Financial Disclosures/Conflicts of Interest

Conflict of Interest

The American Academy of Neurology (AAN) is committed to producing independent, critical and truthful clinical practice guidelines (CPGs). Significant efforts are made to minimize the potential for conflicts of interest to influence the recommendations of this CPG. To the extent possible, the AAN keeps separate those who have a financial stake in the success or failure of the products appraised in the CPGs and the developers of the guidelines. Conflict of interest forms were obtained from all authors and reviewed by an oversight committee prior to project initiation. AAN limits the participation of authors with substantial conflicts of interest. The AAN forbids commercial participation in, or funding of, guideline projects. Drafts of the guideline have been reviewed by at least 3 AAN committees, a network of neurologists, *Neurology* peer reviewers and

representatives from related fields. The AAN Guideline Author Conflict of Interest Policy can be viewed at the [AAN Web site](#)

Disclosures

V. Yadav serves as a section editor for Current Neurology and Neuroscience Reports, served as consultant for Bayer Healthcare Pharmaceutical and Biogen Idec, is on the speakers' bureau of Novartis, and receives research support from the McDougall Foundation, National Multiple Sclerosis Society (NMSS) Foundation, Nancy Davis Center Without Walls Foundation, and Biogen Idec.

C. Bever received travel funding from the American Academy of Neurology (AAN) (unrelated to this guideline), the University of Maryland School of Medicine, and the Department of Veterans Affairs; has a patent held or pending for use of hematogenous stem cells in neuronal replacement therapy and gene delivery; has received funding for merit grants from the US Department of Veterans Affairs and a pilot grant from the NMSS; and has received license fee payments and royalty payments (or has contractual rights for receipt of future royalty payments) related to the patent disclosed above. Dr. Bever's spouse has received publishing royalties from Ambulatory Medicine, Barker et al.

J. Bowen reports no relevant disclosures.

A. Bowling has received funding for travel and honoraria from the Consortium of Multiple Sclerosis Centers, the NMSS, the Multiple Sclerosis Foundation, ProCE, the Center for Disability Services, and the Mandell Center for MS; has received research support from Biogen Idec and Novartis; has consulted for Questcor; and serves on the speakers' bureaus of Acorda, Bayer, Biogen Idec, EMD Serono, Genzyme, Novartis, Pfizer, and Teva Neurosciences.

B. Weinstock-Guttman has served on speakers' bureaus and as a consultant for Biogen Idec, Teva Neurosciences, EMD Serono, Pfizer, Novartis, Genzyme, Sanofi, Mylan, and Acorda; and has received grant/research support from the agencies listed above as well as from Questcor and Shire.

M. Cameron has received research support from the US Department of Veterans Affairs, the NMSS, the Collins Foundation, Acorda Therapeutics, and the Multiple Sclerosis International Federation and funding for travel and honoraria from the Consortium of Multiple Sclerosis Centers.

D. Bourdette has received speaker honoraria and consulting fees from Biogen Idec and Teva Neurosciences, consulting fees from Elan Pharmaceuticals, speaker honoraria from Genzyme, and research grants from the US Department of Veterans Affairs, National Institutes of Health, and NMSS.

G. Gronseth and P. Narayanaswami report no relevant disclosures.

Go to [Neurology.org](#) for full disclosures.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Electronic copies: American Academy of Neurology (AAN) guidelines are available at the [AAN Web site](#) .

Print copies: Available from the AAN Member Services Center, (800) 879-1960, or from AAN, 201 Chicago Avenue South, Minneapolis, MN 55415.

Availability of Companion Documents

The following are available:

- Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis. Data supplement (e-appendices, e-references, e-tables). St. Paul (MN): American Academy of Neurology; 2014. Electronic copies: Available from the [Neurology Web site](#)

- Evidence-based guideline: complementary and alternative medicine in multiple sclerosis. Full guideline. St. Paul (MN): American Academy of Neurology; 2014. 46 p. Electronic copies: Available from the [American Academy of Neurology \(AAN\) Web site](#) .
- Complementary and alternative medicine in multiple sclerosis. Summary of evidence-based guideline for clinicians. St. Paul (MN): American Academy of Neurology; 2014. 3p. Electronic copies: Available from the [AAN Web site](#).
- Complementary and alternative medicine in multiple sclerosis. Case presentation. St. Paul (MN): American Academy of Neurology; 2014. 6p. Electronic copies: Available from the [AAN Web site](#) .
- Complementary and alternative medicine in multiple sclerosis. Payment policy perspectives. St. Paul (MN): American Academy of Neurology; 2014. Electronic copies: Available from the [Neurology Web site](#) .
- Evidence-based guideline: complementary and alternative medicine in multiple sclerosis. Slide presentation. St. Paul (MN): American Academy of Neurology; 2014. Electronic copies: Available from the [AAN Web site](#) .
- AAN guideline development process [online]. St. Paul (MN): American Academy of Neurology. Electronic copies: Available from the [AAN Web site](#) .

Patient Resources

The following is available:

- Complementary and alternative medicine for multiple sclerosis. Summary of evidence-based guideline for patients and their families. St. Paul (MN): American Academy of Neurology; 2014. 5 p. Electronic copies: Available from the [American Academy of Neurology \(AAN\) Web site](#) .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

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